

REMARKS

The Office Action dated April 28, 1010 has been reviewed and carefully considered. Claims 1-19 remain pending, the independent claims being claims 1 and 19. Reconsideration of the above-identified application, as amended and in view of the following remarks, is respectfully requested.

Applicants wish to thank the examiner for noting that an IDS was not filed with the Search Report that accompanied the filing of the application materials. This matter is being reviewed, and should applicants feel such an IDS is warranted, it will be subsequently filed.

Claims 2-18 stand rejected under 35 USC 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter of the invention. In particular, the examiner argues that “[t]he term ‘substantially’ renders the claims indefinite as it is unclear whether the limitation is accomplished or not” (Office Action, para. 3). Paragraph 6 of the Office Action expands on this argument by pointing to the phrase “substantially empty” appearing in claim 3 and noting “If 1000 particles can be held, substantially empty could potentially mean that a broad range of particles are being held, e.g. 1 to 999.”

It is well settled that the use of the term “substantially” does not per se render a claim indefinite. By way of example, the Court of Appeals for the Federal Circuit

(CAFC) recently held, in Verve, LLC v. Crane Cams, Inc., 311 F.3d 1116 (2002) that such language is permissible when warranted by the nature of the invention:

It is well established that when the term "substantially" serves reasonably to describe the subject matter so that its scope would be understood by persons in the field of the invention, and to distinguish the claimed subject matter from the prior art, it is not indefinite. Understanding of this scope may be derived from extrinsic evidence without rendering the claim invalid.

The CAFC found that the lower court erred in requiring that the intrinsic evidence of the specification and prosecution history is the sole source of meaning of words that are used in a technologic context. The CAFC stated that determination of the meaning of such words is that as would be understood by persons in the field of the invention. In other words, an applicant need not explicitly state in the body of the patent application that the terms "substantially" or "about" mean plus, or minus, so many units.

The examiner's argument that the phrase "substantially empty" would include an interpretation that 999 particles out of a possible maximum of 1000 particles could be present is absurd in light of what persons in the field of the invention would regard as being substantially empty.

Moreover, it should be noted that the application discusses how the term "substantially" relates to the technology encompassed by the invention:

As on an atomic/molecular scale two particles always have non-equal positions, it is clear that substantially separate regions only have a meaning from a macroscopic point of view. First and second particles are in substantially separate regions if e.g. the envelope macroscopically surrounding the first particles is

substantially non-coinciding with the envelope macroscopically surrounding the second particles [0016].

With respect to the use of the phrase “substantially separate regions” (now appearing in claim 1 as amended), Applicant draws the examiners attention to Figs. 2 & 3, in which there exist sub-regions 20, 25, and 21 of the common region 30 of pixel 2. In light of the above discussion, sub-region 20 is substantially separate from sub-region 21 as the envelope macroscopically surrounding first particles 6 is substantially non-coinciding with the envelope macroscopically surrounding second particles 7.

With the above noted explanations and the amendments to the claims, applicants submit that the reason for the examiner's rejection under 35 USC 112, second paragraph, has been overcome. Applicants respectfully request the rejection be withdrawn.

Claims 1 and 19 stand rejected under 35 USC 102(e) as being anticipated by Machida et al., U.S. Pub. No. 2004/0252361, hereinafter (Machida).

Applicants respectfully disagree with, and explicitly traverse, the examiner's reason for rejecting the claims.

Claim 1, has been amended to incorporate the features of claims 2 and 3 and now recites:

1. (Currently amended) An electrophoretic display panel for displaying a picture and subsequently displaying a subsequent picture comprising:
 - a pixel having
 - an electrophoretic medium comprising first and second charged particles,

the first charged particles having a first optical property, the second charged particles having a second optical property different from the first optical property, the first and the second charged particles being able to occupy positions in a common region of the pixel, the common region comprising at least three substantially separate sub-regions, at least one of which is substantially empty;

- an optical state depending on the positions of the particles in the common region, and

- transition control means comprising:

- electrodes for receiving potentials, each one of the electrodes being associated with one of the sub-regions, and

- drive means being arranged to control the potentials to control the transition of at least a first number of the first particles and at least a second number of the second particles being in respective separate sub-regions of the common region for displaying the picture, to separate sub-regions of the common region for displaying the subsequent picture,

wherein the transition control means are further arranged to control the first number of the first particles and the second number of the second particles to be in separate sub-regions of the common region during the transition, and **wherein the transition comprises a sub-transition wherein the first or second particles are brought from one sub-region to one of the substantially empty sub-regions** [emphasis added].

Paragraph 6 of the office action points to Figs. 2-6 and paragraphs 0079-0087 as teaching this feature of the invention. Applicants respectfully disagree, as Figs. 2-6 merely show various viewing states in which certain display colors are attained. Paragraphs 0079-0087 merely describe how applying various voltages to the display's electrodes will attain the resulting colors. These cited passages of Machida fail to address the feature of claim 1 that "the transition comprises a sub-transition wherein the

first or second particles are brought from one sub-region to one of the substantially empty sub-regions.”

By way of example, paragraph [0079] in describing Fig. 2 states how voltages applied to electrodes 7a and 7c will result in the appropriate particles adhering to one of these electrodes. There is no description of how this transition comprises a sub-transition employing a substantially empty sub-region. Moreover, [0079] essentially teaches away from this feature of claim 1. Similarly paragraph [0080] in describing Fig. 3 again states how that application of voltages to the appropriate electrodes will yield the pictured result – again, there no description of how this transition comprises a sub-transition employing a substantially empty sub-region as recited in claim 1. Similarly paragraphs [0081] – [0085] and fail to address this feature.

Moreover, paragraph [0086] states:

Thus, according to the present embodiment, display of three colors can be implemented at a single display element, and multi-color display can be implemented without reducing black-and-white display quality. Further, the particles **can be selectively moved to desired locations simply by the application of D.C. voltages.** [emphasis added]

Applicants submit that Machida’s movement of particles by the “simple application” of voltages as taught in paragraphs 0079-0087 in fact teaches away from the feature of claim

1 wherein the transition comprises a sub-transition wherein the first or second particles are brought from one sub-region to one of the substantially empty sub-regions.

A claim is anticipated only if each and every element recited therein is expressly or inherently described in a single prior art reference. Machida cannot be said to anticipate the present invention, because Machida fails to disclose each and every element recited. As shown, Machida fails to disclose the limitation of the “transition comprises a sub-transition wherein the first or second particles are brought from one sub-region to one of the substantially empty sub-regions” as is recited in claim 1. Claim 19 also contains this feature and is deemed patentable over Machida for at least the same reasons.

Having shown that Machida fails to disclose each and every element claimed, applicants submit that the reason for the Examiner's rejection of claims 1 and 19 has been overcome and can no longer be sustained. Applicants respectfully request reconsideration, withdrawal of the rejection and allowance of claims 1 and 19.

With regard to claims 2-18, these claims ultimately depend from claim 1, which has been shown to be not anticipated and allowable in view of the cited references. Accordingly, claims 2-18 are also allowable by virtue of their dependence from an allowable base claim. Since each dependent claim is also deemed to define an additional aspect of the invention, however, the individual reconsideration of the patentability of each on its own merits is respectfully requested.

In particular, with respect to the following dependent claims, if Allowance of these claims is withheld, Applicants respectfully request that the examiner point with specificity to what section(s) of Machida teach the recited feature of these claims:

claim 11 “decoupling means”

claim 16 “repulsive layer”

claim 17 “first membrane”

For all the foregoing reasons, it is respectfully submitted that all the present claims are patentable in view of the cited references. A Notice of Allowance is respectfully requested.

Respectfully submitted,

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